IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method of measuring alignment in a substrate, provided with at least one substrate alignment mark having a periodic structure, with respect to a reference alignment mark having a periodic structure with a first period, prior to imaging a mask pattern in a resist layer on the substrate, ~~which~~ the method ~~comprises the steps of~~ comprising:

illuminating a substrate alignment mark with an alignment beam and imaging this mark on a reference alignment mark, and

determining the intensity of alignment radiation from the reference alignment mark by,

~~characterized by the steps of:~~

using a substrate alignment mark having a periodic structure with a second period ~~$p_4$~~ which is ~~substantially~~ smaller than the first period of the reference alignment mark;

providing the resist layer with an additional alignment mark having a periodic structure with a third period ~~$p_2$~~ such that, upon illumination by the alignment beam of the substrate alignment mark and the additional alignment mark, an interference ~~patter~~ pattern is generated having a fourth period which is ~~substantially~~ approximately equal to the first period of the reference alignment mark, and

imaging the interference pattern on the reference alignment mark[[.]],

wherein the interference pattern is imaged on a mask alignment mark via an optical filter, which selects diffraction orders of the radiation from the substrate alignment marks to proceed to said mask alignment mark.

2. (Currently amended) A method as claimed in claim 1, ~~characterized in that use is made of~~ further comprising using a substrate reference mark having a fifth period substantially the same ~~period~~ as the fourth period of interference pattern, imaging the substrate reference alignment mark ~~is imaged~~ on the reference alignment mark, and determining the difference between the positions of the image of the interference pattern and that of the substrate reference alignment mark with respect to the reference alignment mark ~~is determined~~.

3. (Currently amended) A method as claimed in claim 1, ~~characterized in that use is made of~~ further comprising using gratings for the substrate alignment mark, the additional alignment mark and the reference alignment mark.

4. (Currently amended) A method as claimed in claim 1, wherein ~~characterized in that~~ the additional alignment mark is a latent mark.

5. (Currently amended) A method of aligning a substrate with respect to a mask, using a global alignment-measuring method of measuring the position of a global substrate alignment mark with respect to a global reference alignment mark, ~~which~~ the method ~~is characterized by the steps of~~ comprising:

providing a substrate with a substrate reference alignment mark and a substrate fine alignment mark having a period which is ~~substantially~~ smaller than that of the substrate reference alignment mark, which substrate is covered with a resist layer;

aligning the substrate reference alignment mark with respect to a non-substrate reference alignment mark, using a coarse-alignment-measuring method;

providing the resist layer with an additional alignment mark having a period of the same order as that of the substrate fine alignment mark;

measuring the alignment of the substrate fine alignment mark with respect to the additional alignment mark by illuminating these two marks and imaging the resulting interference pattern on the non-substrate reference alignment mark, and

using the measuring signal of this measurement to correct the signal obtained with the coarse alignment method;

wherein the interference pattern is imaged via an optical filter, which selects diffraction orders of the radiation from the illuminated marks.

6. (Currently amended) A method as claimed in claim 1, ~~characterized in that it~~ wherein the method is based on the on-axis alignment principle.

7. (Cancelled)

8. (Currently amended) A method as claimed in claim 1, ~~characterized in that it~~ wherein the method is based on the off-axis principle.

9. (Currently amended) A method of manufacturing devices in at least one layer of a substrate, ~~which method comprises at least one set of the following successive steps~~ comprising:

aligning a mask provided with a mask pattern comprising pattern features corresponding to a device feature to be configured in said layer;

imaging, by ~~means of~~ projection radiation, the mask pattern in a radiation-sensitive layer on the substrate, and

removing material from, or adding material to, areas of said layer and substrate, which areas are delineated b the mask pattern image, characterized in that wherein the alignment is carried out by ~~means of the~~ an alignment-measuring method comprising[[:]]

illuminating a substrate alignment mark with an alignment beam and imaging this mark on a reference alignment mark having a periodic structure with a first period; and

determining the intensity of alignment radiation from the reference alignment mark by;

~~characterized by the steps of:~~

using a substrate alignment mark having a periodic structure with a second period $p_1$ which is ~~substantially~~ smaller than the first period of the reference alignment mark;

providing the resist layer with an additional alignment mark having a periodic structure with a third period $p_2$ such that, upon illumination by the alignment beam of the substrate alignment mark and the additional alignment mark, an interference pattern is generated having a fourth period which is ~~substantially~~ approximately equal to the first period of the reference alignment mark; and

imaging the interference pattern on the reference alignment mark;

wherein the interference pattern is imaged on a mask alignment mark via an optical filter, which selects diffraction orders of the radiation from the substrate alignment marks to proceed to said mask alignment mark.

10. (Currently amended) The method of Claim 5, ~~characterized in that it~~ wherein the method is based on the on-axis alignment principle.

11. (Currently amended) The method of Claim 5, characterized in that it is wherein the method is based on the off-axis principle.